



APPLICATION NO. 09/826,118

INVENTION: Wavelet Multi-Resolution Waveforms

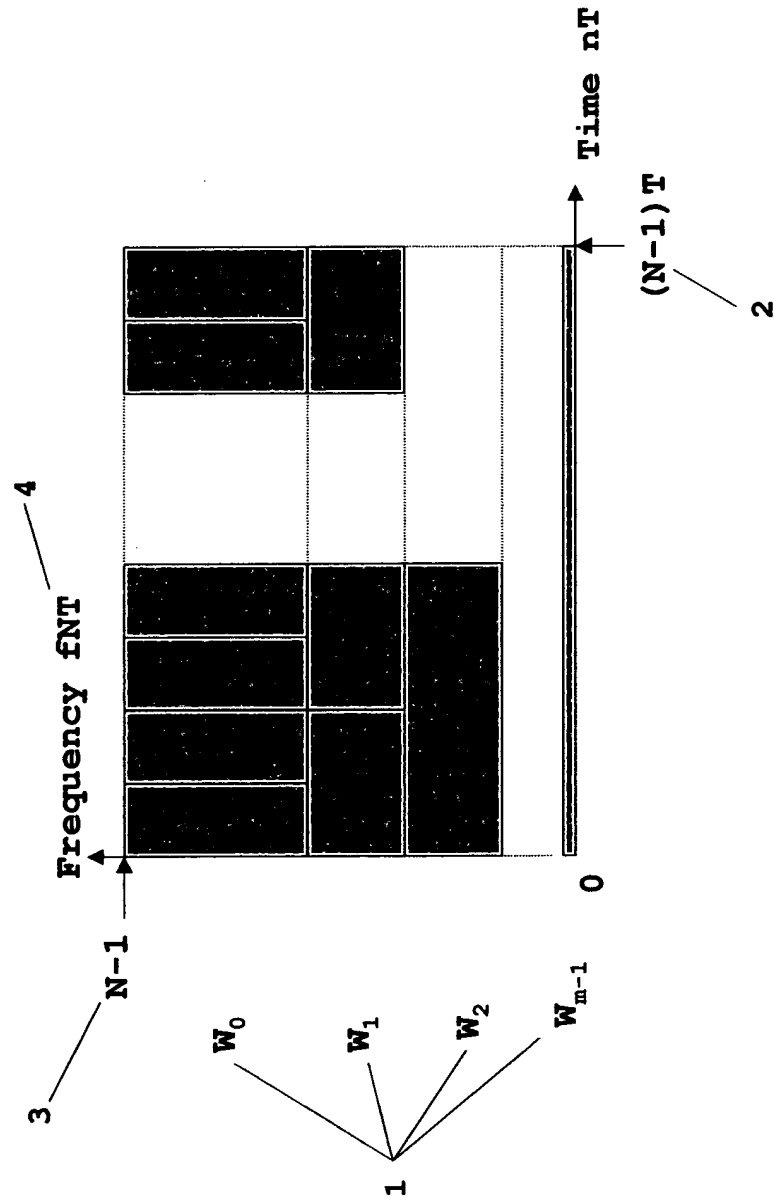
INVENTOR: Urbain A. von der Embse

DRAWINGS AND PERFORMANCE DATA



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FIG. 1 Wavelet Tiling of an N-Point Digital t-f Space



REPLACEMENT SHEET

FIG. 1 Prior Art: Wavelet Tiling of an N-Point
Digital t-f Space

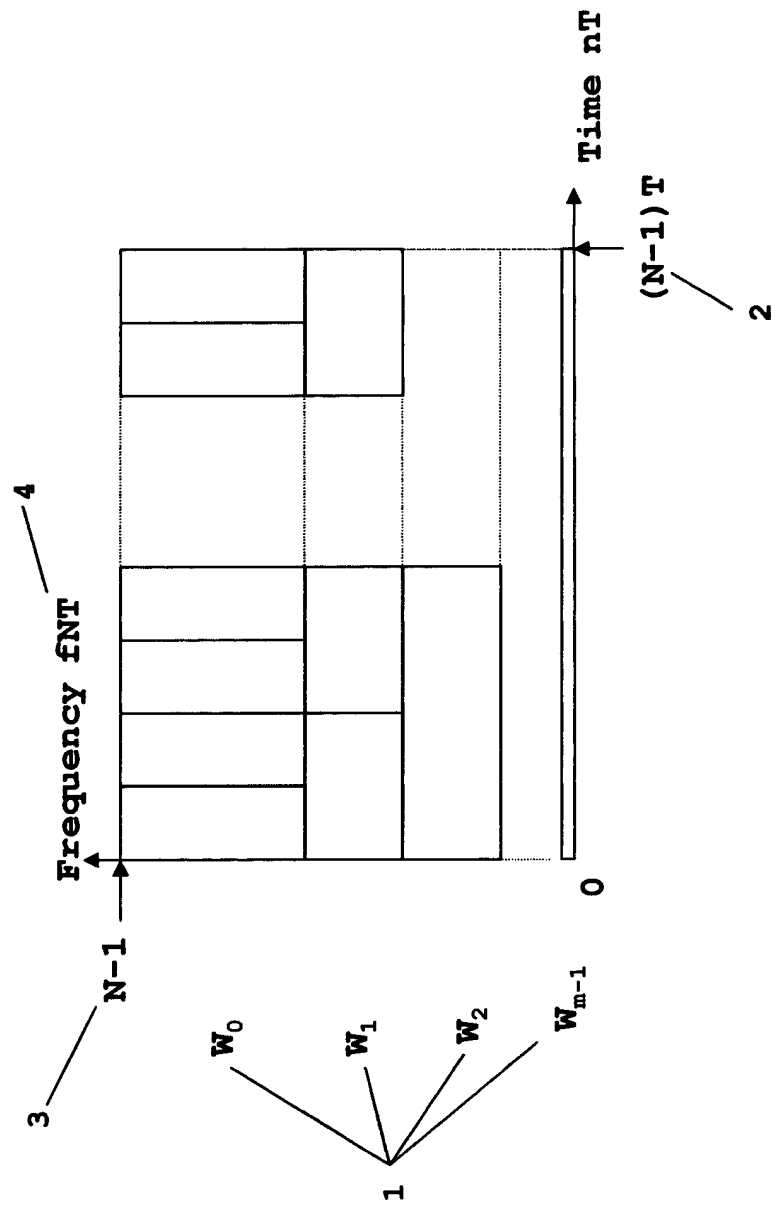
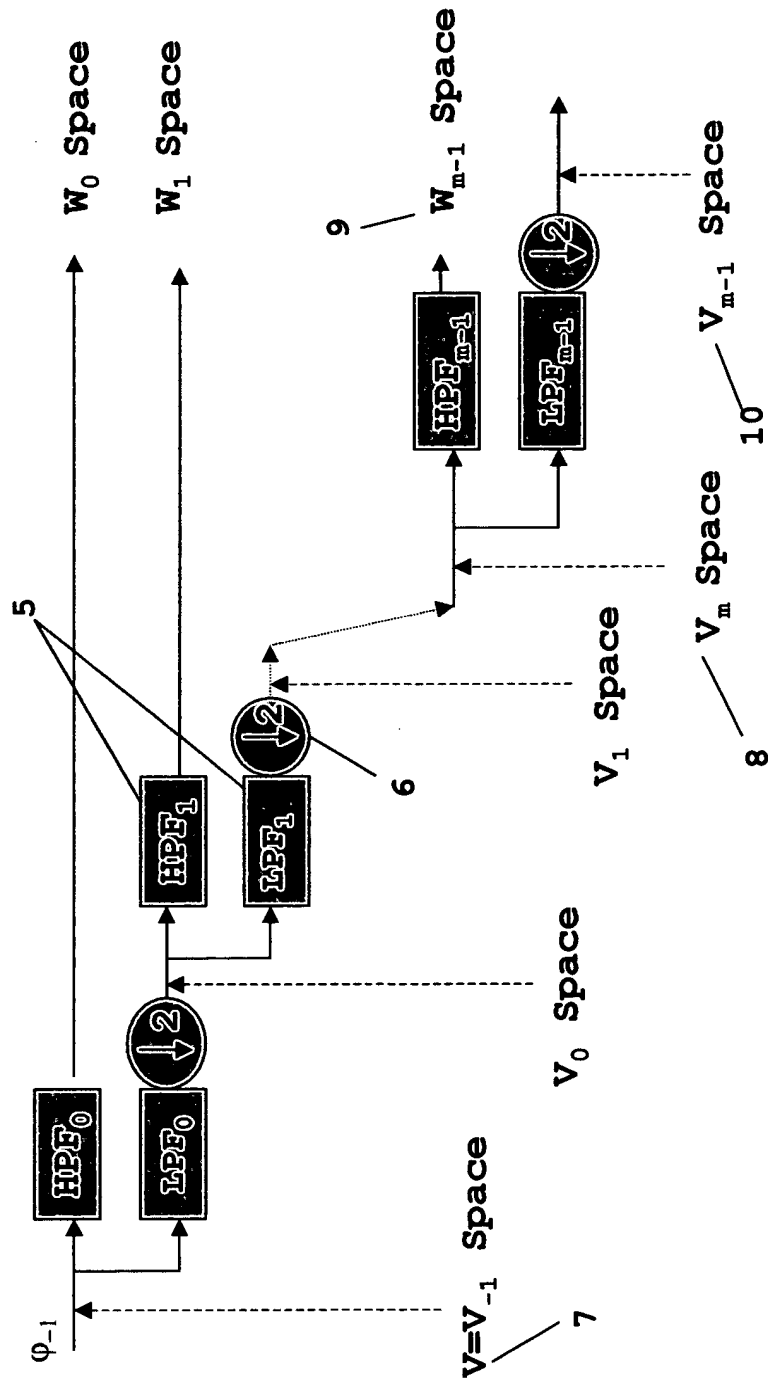
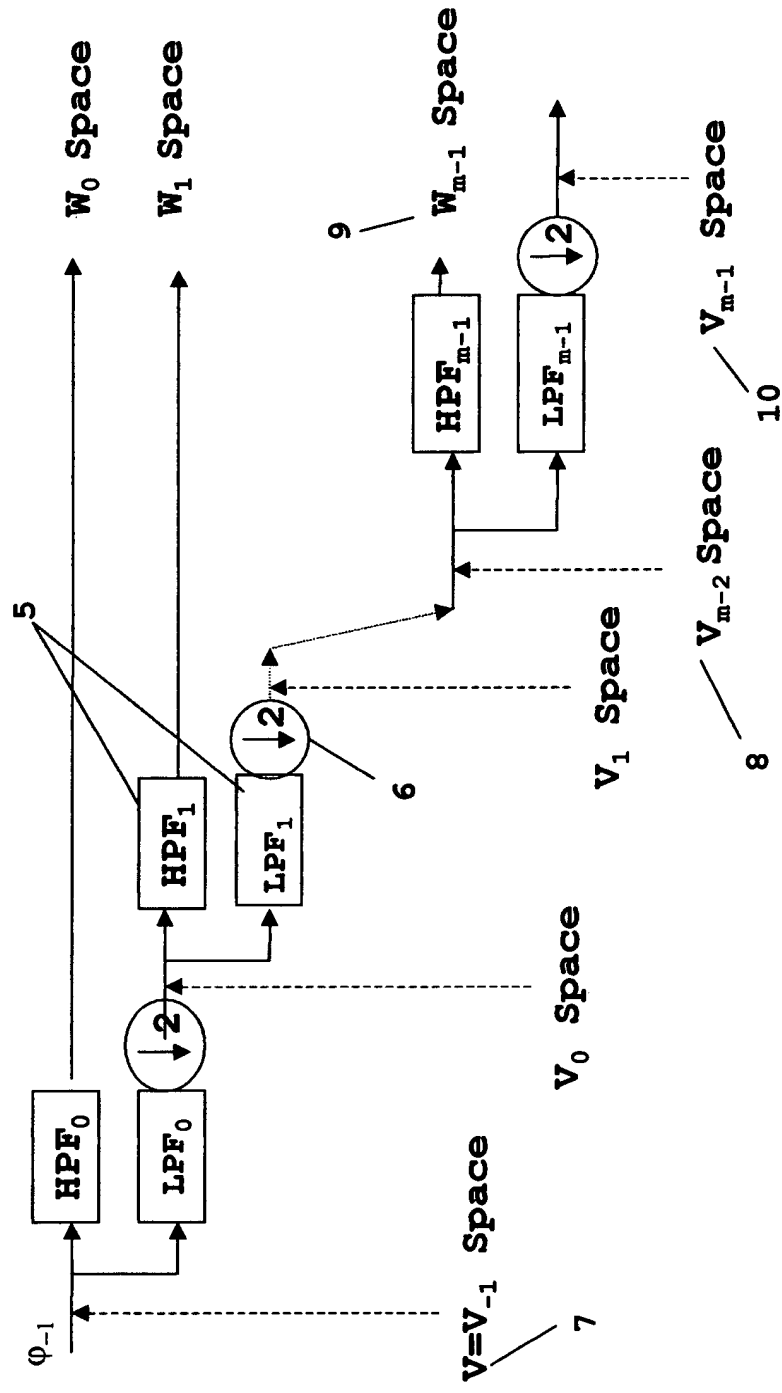


FIG. 2 Wavelet Iterated Filter Bank for Tiling t-f
Space in FIG. 1



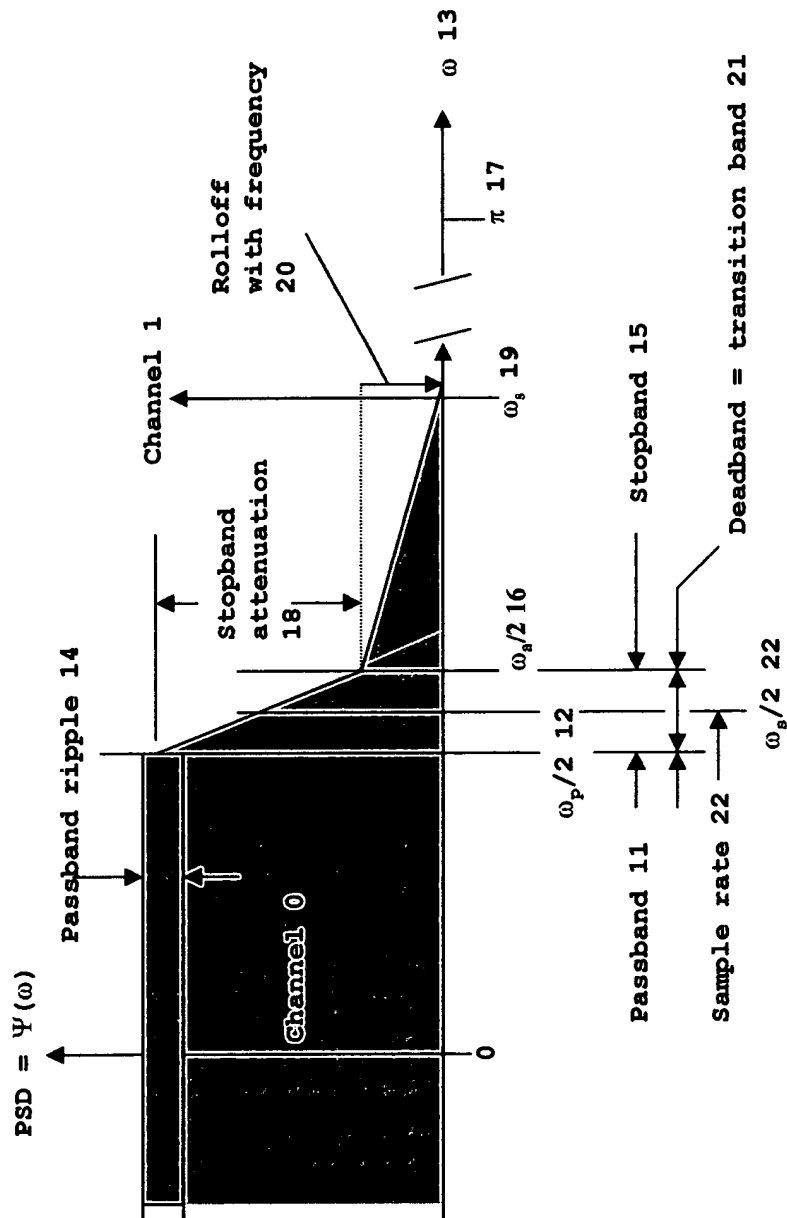
REPLACEMENT SHEET

FIG. 2 Prior Art: Wavelet Iterated Filter Bank for Tiling t-f Space in FIG. 1



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FIG. 3 PSD Requirements for Communications



REPLACEMENT SHEET

FIG. 3 PSD Requirements for Communications

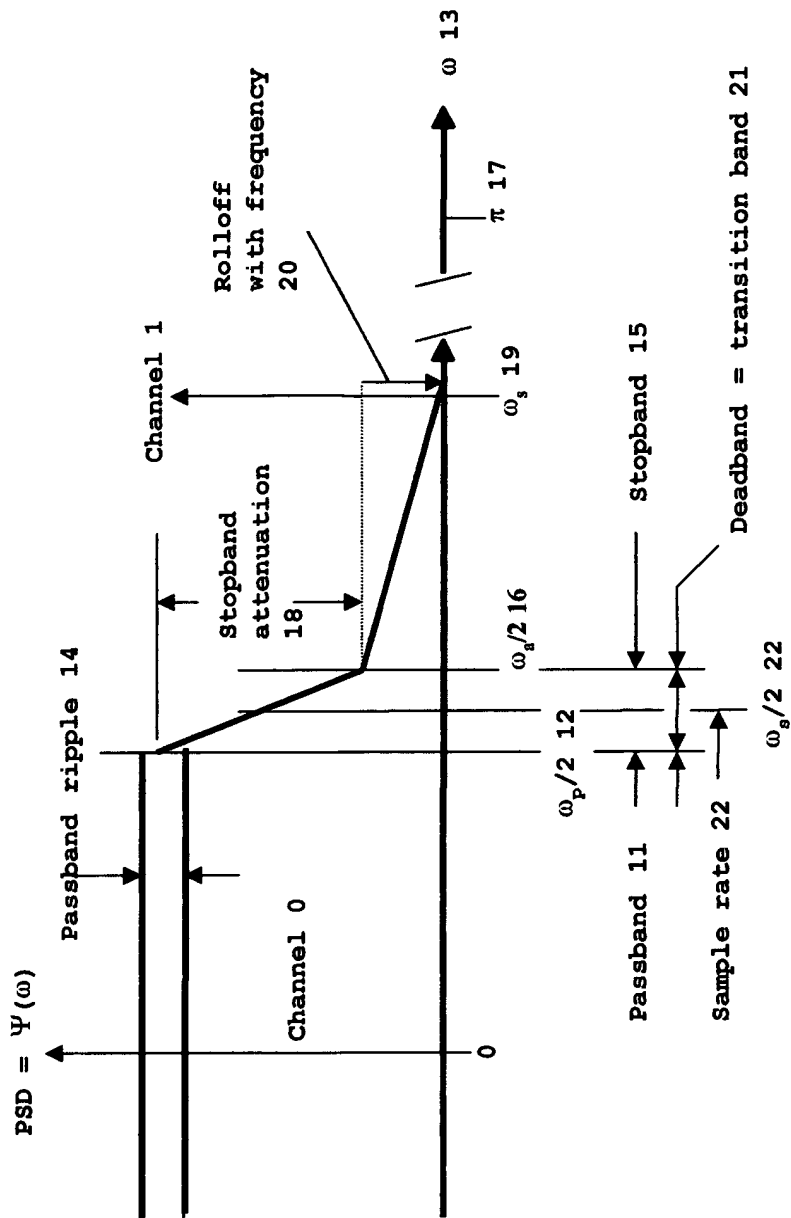
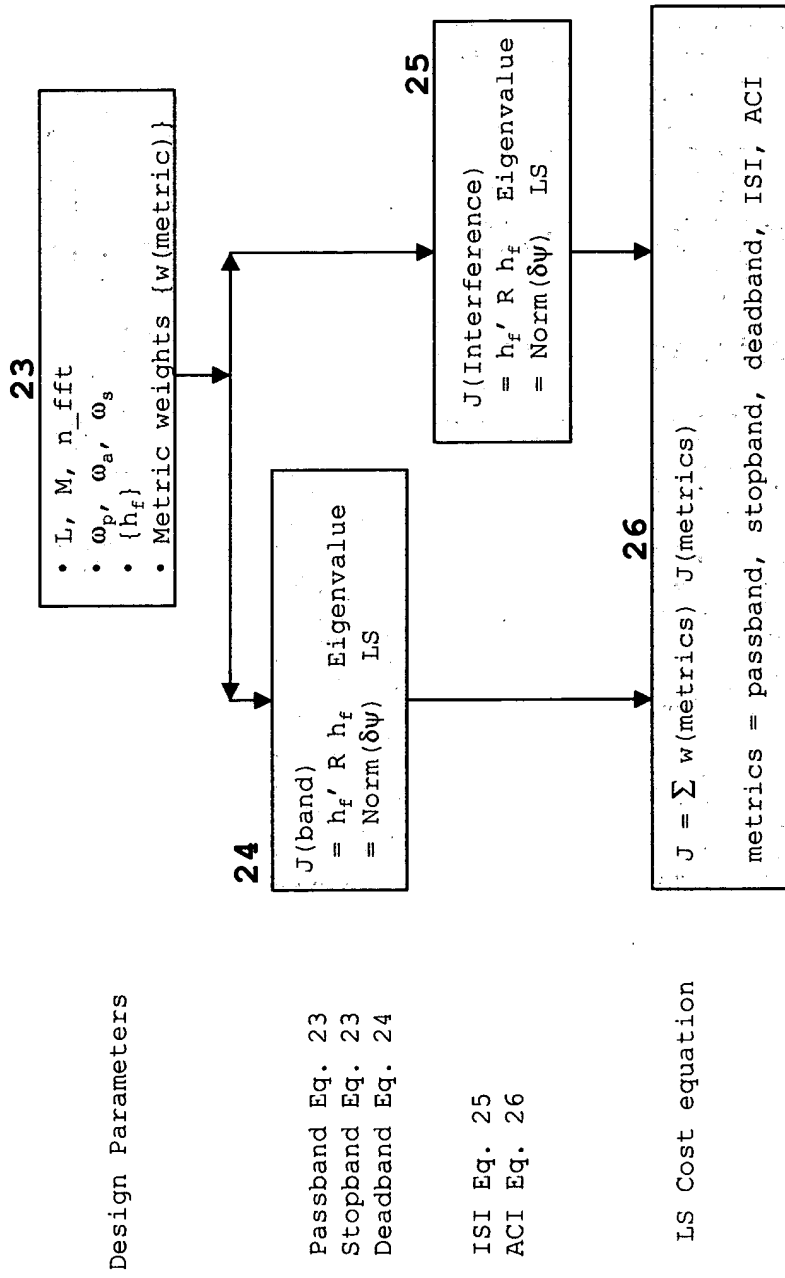


FIG. 4 LS Metrics and Cost Function



REPLACEMENT SHEET

FIG. 4 LS Metrics and Cost Function

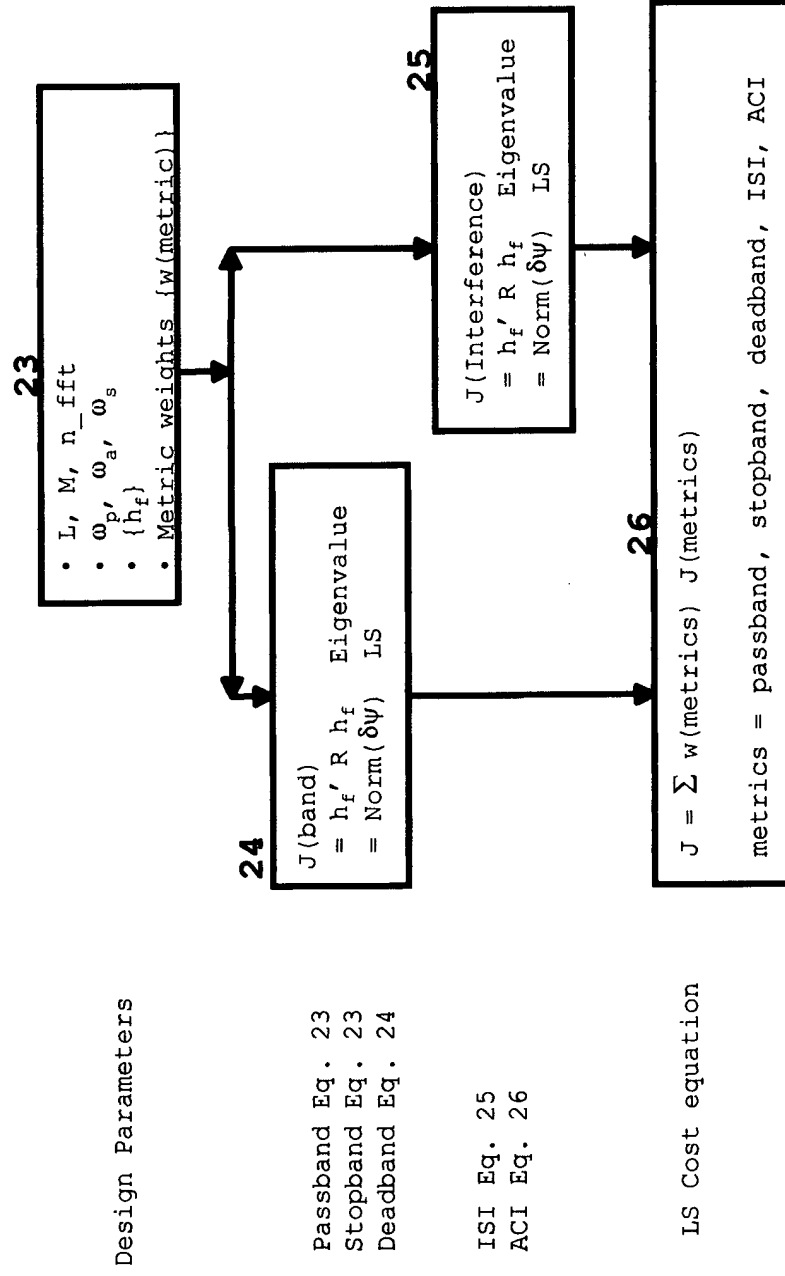
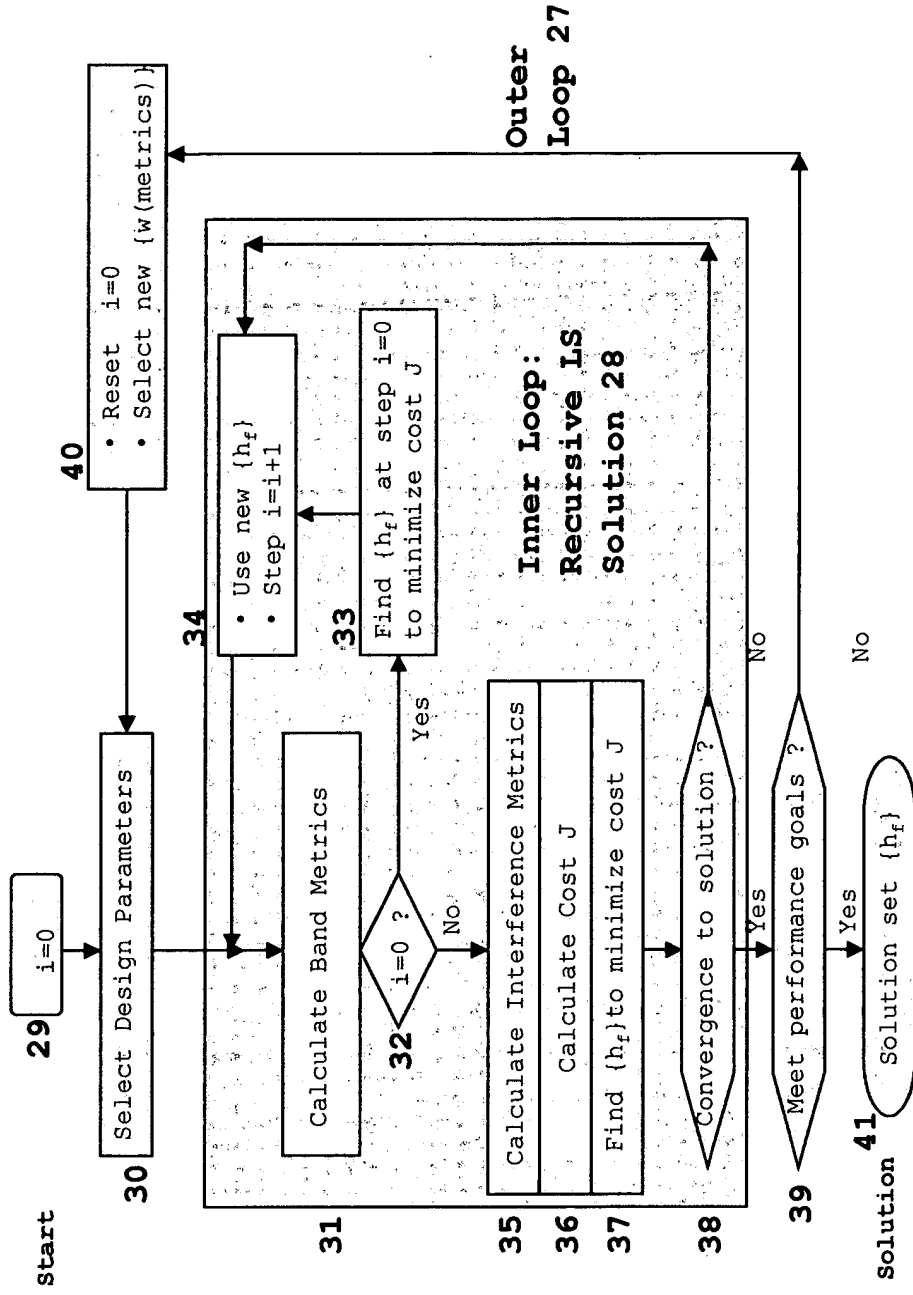


FIG. 5 LS Recursive Solution Algorithm



REPLACEMENT SHEET

FIG. 5 LS Recursive Solution Algorithm

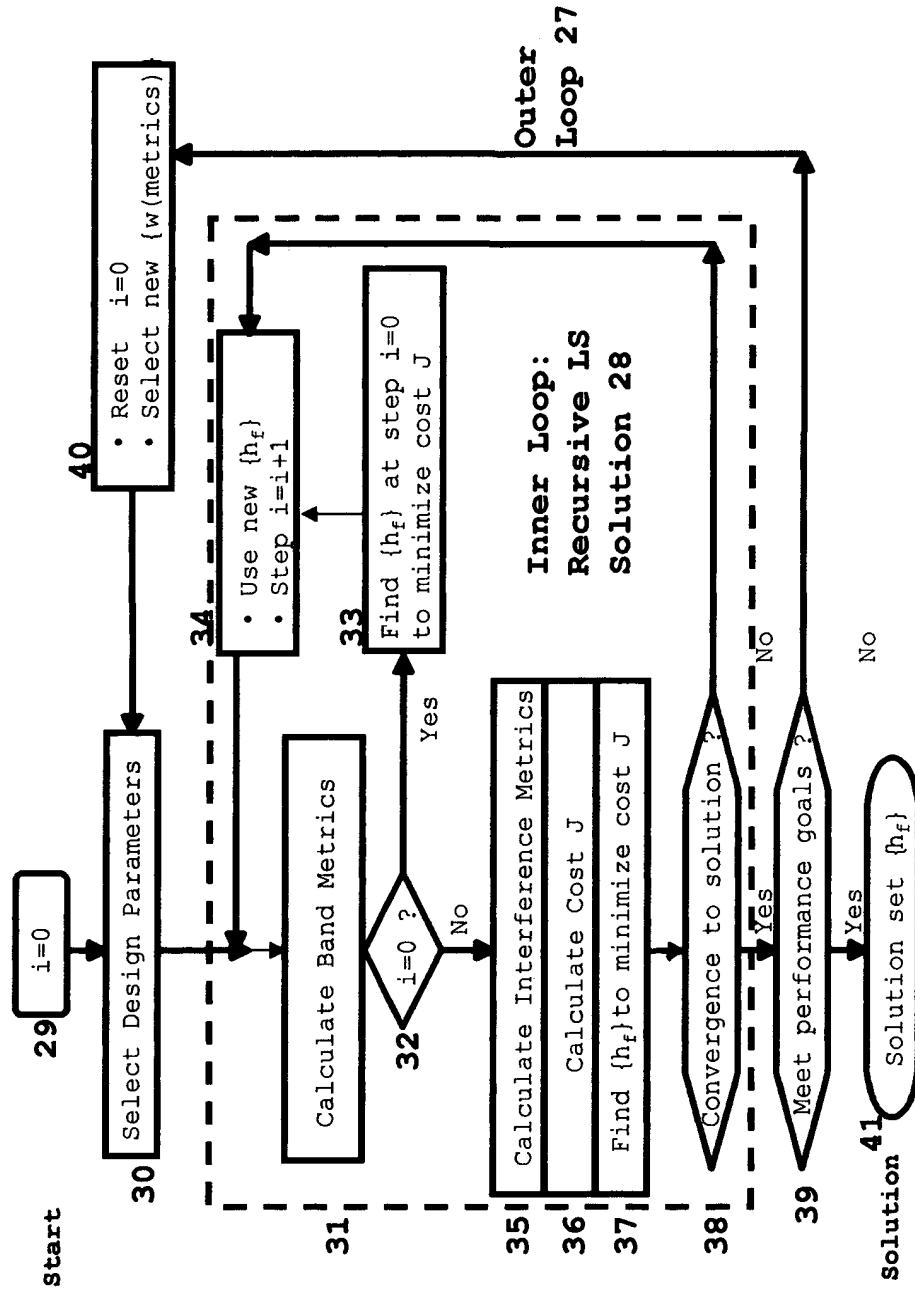
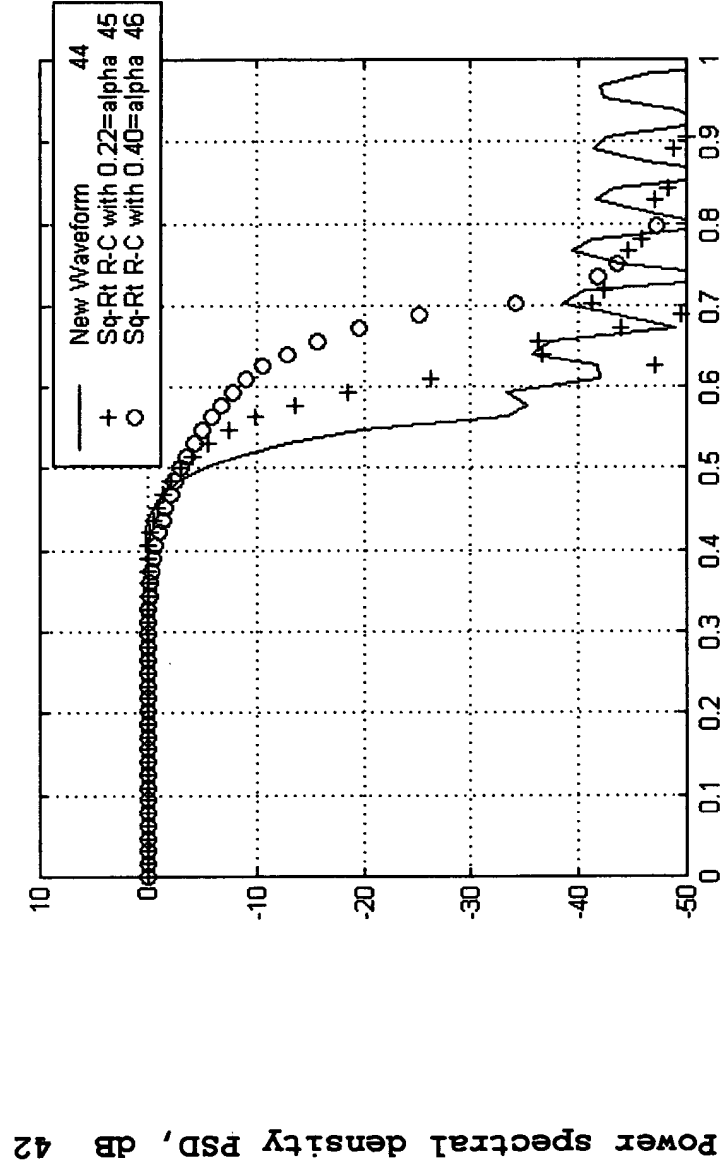


FIG. 6 PSD for New Waveform and Square-Root Raised-Cosine



Normalized frequency, symbol rate

Power spectral density PSD, dB 47

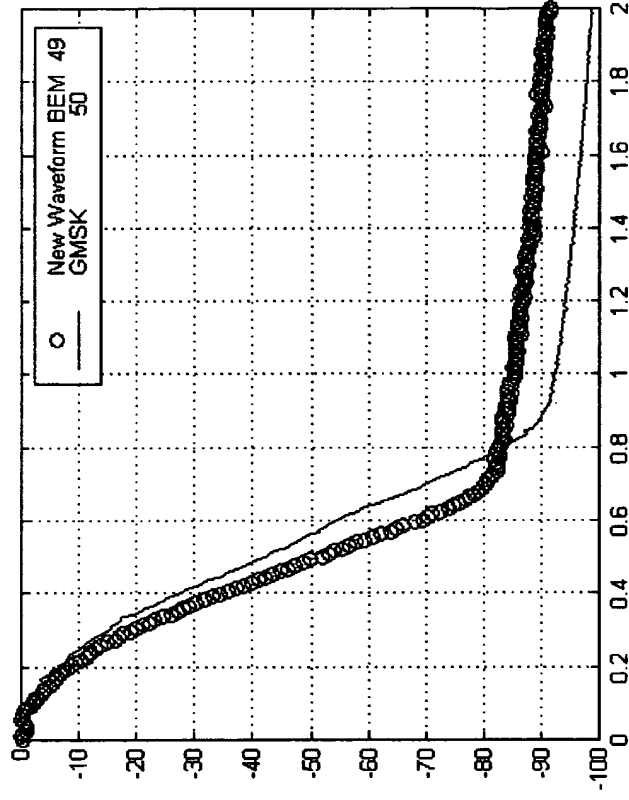


FIG. 7 PSD for New Waveform BEM and GMSK

Normalized frequency, bit rate 48

**FIG. 8 Radar Ambiguity Functions of New Waveform
and Unweighted Chirp Waveform**

New Wavelet Ambiguity Function 51

Unweighted Chirp Ambiguity Function 52

